

Exam 5.

Due Wednesday Dec. 14.

1. Let G be a group. Let τ, σ be two Polish group topologies on it which give the same Borel sets. Prove that $\tau = \sigma$. *Hint.* Automatic continuity.
2. Let X, d be a countable discrete metric space with a metric. Prove that the group of self-isometries of X is isomorphic to a closed subgroup of S_∞ .